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**LEXTRAN SUPPORT PROJECT: STRATEGIC PLANNING SUPPORT**





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### **KENTUCKY TRANSPORTATION CENTER**

176 Raymond Building  
University of Kentucky  
Lexington, Kentucky 40506-0281

(859) 257-4513  
(859) 257-1815 (FAX)  
1-800-432-0719  
[www.ktc.uky.edu](http://www.ktc.uky.edu)  
[ktc@engr.uky.edu](mailto:ktc@engr.uky.edu)

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Research Report  
KTC-05-24/FR133-03-IF

## LEXTRAN SUPPORT PROJECT: STRATEGIC PLANNING SUPPORT

**Research Report  
KTC-05-24/FR133-03-IF**

**LXTRAN SUPPORT PROJECT: STRATEGIC PLANNING SUPPORT FOR LXTRAN  
VISIONING**

**Lenahan O'Connell, PhD**

**Ted Grossardt, PhD**

**Kentucky Transportation Center  
College of Engineering  
University of Kentucky  
Lexington, KY**

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<b>16. Abstract</b> In October 2003, LexTran, the City of Lexington's public transportation provider, was undergoing a management transition. It sought the assistance of the Kentucky Transportation Center for strategic planning and visioning. This project produced four deliverables: (1) a series of public meetings facilitated by the Kentucky Transportation Center on rider and other stakeholder attitudes toward LexTran and its general performance; (2) an environmental scan comparing LexTran to similar transit providers on operating efficiency, ridership, funding sources, and other characteristics; (3) A GIS database containing census data and other information useable for the analysis of proposed routes; and (4) a PowerPoint presentation of LexTran's financial situation in 2004 that was used to inform the public prior to the 2004 referendum for a proposed dedicated tax to support LexTran operations. Lexington voters passed the referendum and Lextran is now financially solvent. The environmental scan, the GIS database, and the PowerPoint presentation are in Appendices A, B, and C, respectively.			
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## **Executive Summary**

In October of 2003, the Kentucky Transportation Center (KTC) began a multifaceted research project in collaboration with LexTran, the city of Lexington's public transportation provider. LexTran, a taxpayer supported public authority, had entered a period of financial crisis brought about by a rise in operating costs coinciding with a decline in federal aid. In addition, its bus fleet had maintenance problems about which its drivers were complaining. As these troubles became public knowledge, confidence in LexTran appeared to be eroding.

LexTran was also undergoing a management transition. With its problems mounting, it sought KTC assistance in gathering objective information on its operational effectiveness and the current needs of its ridership. This information would be used to facilitate a process of restructuring to better serve Lexington.

KTC facilitated several public meetings to obtain information on the attitudes and transportation needs of its current ridership, the destinations to which they ride, and possible changes in routes to better serve them. KTC also talked to potential employers of riders and representatives of other beneficiaries of Lextran's services (e.g., retail establishments, medical and social service institutions, schools and the like.).

Additionally, KTC conducted an environmental scan in which quantitative indicators of Lextran's operational efficiency were compared to those of transit services in 10 benchmark cities. This information was then entered into a GIS database, which was given to LexTran to serve as a useful tool for tracking and adjusting system performance.

With FTA data, the environmental scan established that LexTran was more efficient than the average benchmark city on all four measures of system performance. It

had a lower operating expense per vehicle revenue mile--\$4.16 to the benchmark average of \$4.45. Similarly, its operating expense per vehicle operating hour was lower, \$53.12 to \$60.42. Its operating expense per unlinked passenger trip was also lower, \$2.06 to \$3.12. One reason for the cost efficiency is that LexTran carried more unlinked passengers per vehicle revenue hour—25.82 passengers to 21.81 for the average of the benchmark cities. These numbers suggest that LexTran was efficiently run. In fact, in 2002, LexTran spent less money per unlinked passenger trip than eight of the ten benchmark cities, including the Transit Authority of Northern Kentucky (TANK).

A comparative analysis of LexTran's revenue sources revealed that LexTran received a larger percentage of its revenues from federal sources and a smaller percentage from the state than did its benchmarks. One implication of this was that LexTran had to find additional revenues to compensate for the loss of federal funding if it was to remain solvent. That is it needed more revenues from either the state or local government.

The comparison of LexTran with its benchmarks discovered a primary reason for LexTran's maintenance problems. Its bus fleet was much older (13.6 years on average) than the benchmark average (7.85). Indeed, in 2002, its fleet was older on average than any of the benchmarks.

The initial work plan called for three deliverables. However a fourth deliverable—a PowerPoint presentation--was added as work progressed. The four deliverables are:

- (1) A series of facilitated public meetings on rider and other stakeholder attitudes toward LexTran and its general performance. This information was obtained at facilitated public meetings and from a review of various documents.

- (2) An environmental scan. The environmental scan compared the size, funding sources, operating efficiency, ridership and other characteristics of LexTran to other transportation providers in ten comparable cities in the South and Midwest. The environmental scan is in Appendix A.
- (3) A GIS database which would include among other items Lexington street alignments, current routes, and basic demographic data applicable to LexTran activities. Some of the data came from Census Bureau records and some from the public meetings, facilitated by the research team. LexTran officials informed us that they view the database as a multi-use tool suitable for such tasks as route planning, accident investigation, and safety planning. The compact disk is in appendix B.
- (4) A PowerPoint presentation of LexTran's financial situation in 2004 (Appendix C). This was used to inform the public prior to a referendum, the purpose of which was voter support for a dedicated tax to support LexTran's operation. The referendum was passed by the voters of Lexington in November of 2004.

## **I. Introduction**

In October of 2003, the Kentucky Transportation Center (KTC) began a multifaceted research project in collaboration with LexTran, Lexington's public transportation provider. The work was funded by the department of planning in the Kentucky Transportation Cabinet.

LexTran, a taxpayer supported public authority, had entered a period of financial crisis brought about by an unavoidable rise in operating costs coinciding with a decline in federal aid. It was also experiencing problems maintaining its aging fleet of buses. At the same time, LexTran was undergoing a management transition. In response, it sought KTC assistance for strategic planning and visioning. This required the facilitation of public meetings with riders and other stakeholders as well as the gathering of objective data on LexTran's operational effectiveness and the needs of its ridership.

The initial work plan called for a series of public meetings and studies, including GIS analysis, which could then be used to develop new policies to better serve the residents of Lexington. KTC worked with LexTran's board, its management, and an advisory group, the LexTran Working Group (LWG).

KTC facilitated several public meetings to obtain information on the attitudes and transportation needs of its current ridership, the destinations to which they ride, and possible changes in routes to better serve them. KTC also talked to potential employers of riders and representatives of other beneficiaries of LexTran's services (e.g, retail establishments, medical and social service institutions, schools and the like.). Additionally, KTC conducted an environmental scan in which quantitative indicators of

LexTran's operational efficiency were compared to those of transit services in 10 benchmark cities. This information was then entered into a GIS database, which was given to LexTran to serve as a useful tool for tracking and adjusting system performance.

## **II. The Work Plan**

The initial work plan called for three deliverables. However a fourth deliverable—a PowerPoint presentation--was added as work progressed. The four deliverables are:

1. A series of facilitated public meetings on rider and other stakeholder attitudes toward LexTran and its general performance. This information was obtained at facilitated public meetings and from a review of various documents.
2. An environmental scan. The environmental scan compared the size, funding sources, operating efficiency, ridership and other characteristics of LexTran to other transportation providers in ten comparable cities in the South and Midwest. The environmental scan is in Appendix A.
3. A GIS database which would include among other items Lexington street alignments, current routes, and basic demographic data applicable to LexTran activities. Some of the data came from Census Bureau records and some from the public meetings, facilitated by the research team. This is in appendix B.
4. A PowerPoint presentation of LexTran's financial situation in 2004 (Appendix C). This was used to inform the public prior to a referendum, the purpose of which was voter support for a dedicated tax to support LexTran's operation. The referendum was passed by the voters of Lexington in November of 2004.

These deliverables are the product of cooperation with LexTran's management, its employees, its board, and the LWG. KTC was greatly aided in the completion of this project by the knowledge and commitment they brought to the various meetings and data gathering activities.

### **III. An Overview of the Findings from Public Meetings and Other Tasks**

In October 2003, the research team met with the LexTran Working group to explain the goals of the project. Jim Adams, the new manager who was employed by the transit management firm that is currently running LexTran discussed the problems facing LexTran with the members of the LexTran Working Group (LWG). Several guiding principles emerged from the discussion. (1) LexTran needed to build public confidence in the management of LexTran. (2) This would require evidence that LexTran was serving the community. (3) Only then would Lexington provide the needed funding to support LexTran, which could not survive without a new funding source.

The LWG approved the plan and the research team proceeded to plan and schedule four meetings with riders and other stakeholders. These meetings were held at the Lexington Public Library in December 2003 and January 2004. Standard group facilitation practices were used, along with electronic keypads and maps generated from the GIS system. With the assistance of the bus operators and their union, approximately 100 riders attended the meetings devoted to the concerns and perceptions of LexTran's customers. At two other meeting, approximately 20 stakeholders—employers, retailers, public agencies, etc.—expressed their opinions and concerns regarding LexTran's performance and operation.



### **LexTran Employee Addressing the LexTran Working Group**

The riders indicated on maps their place of residence, the buses they used, the destinations they rode to, and the places they would like to be able to ride to. This information was entered into the GIS database and analysis. In addition they identified areas of concern—for example, the inadequate number of bus shelters, the often poor condition and dependability of the buses, and cuts in service as well as the limited number of routes.

A full 69 percent of the riders who attended the meetings at the Lexington public library did not own or have access to an automobile. More than 50 percent had incomes

below \$15,000 per year. Concerning the reasons for using LexTran, more than 50 percent indicated they use it for each of the following: getting to work, to medical care, to shop, and to visit friends. In addition, more than 50 percent said they had lost a job or had to turn down a job because they couldn't make the trip.

When asked to rate the importance of a variety of concerns—those of greatest concern were the physical/mechanical condition of the buses including heat and air, the punctuality of service, the maintenance of the transit center, and the quality of the bus stops and shelters.

During the same months, the research team assembled comparative data from 2002 FTA reports and other sources on the performance of LexTran and 10 benchmark transit systems in other cities. Each benchmark city had a population of at least 100,000. The analysis found that LexTran was more efficient than the benchmark average on four measures of system performance. It had a lower operating expense per vehicle revenue mile--\$4.16 to the benchmark average of \$4.45. Similarly, its operating expense per vehicle operating hour was lower, \$53.12 to \$60.42. Its operating expense per unlinked passenger trip was also lower, \$2.06 to \$3.12. One reason for the cost efficiency is that LexTran carried more unlinked passengers per vehicle revenue hour—25.82 passengers to 21.81 for the average of the benchmark cities. These numbers suggest that LexTran was efficiently run. In fact, in 2002, LexTran spent less money per unlinked passenger trip than eight of the ten benchmark cities, including the Transit Authority of Northern Kentucky (TANK).

A comparative analysis of LexTran's revenue sources revealed that LexTran received a larger percentage of its revenues from federal sources and a smaller percentage

from the state than did its benchmarks. One implication of this was that LexTran had to find additional revenues to compensate for the loss of federal funding if it was to remain solvent. That is, it needed more revenues from either the state or local government.

KTC obtained the results of a study of LexTran's economic contribution to Lexington conducted by the University of Kentucky's Center for Business and Economic Research. The study estimated four categories of economic benefits generated in 2000: (1) wage and mobility benefits to the riders from LexTran provided access to employers; (2) a variety of other transportation related benefits (e.g., auto costs avoided); (3) benefits to the general public (i.e., less pollution and congestion in Lexington); and (4) the impact in dollars from LexTran generated economic activity on the local economy. The total benefit in dollars was estimated to be \$14,638,457, which was 3.8 times greater than the \$3,849,830 that Lexington/Fayette County spent on LexTran in 2000.

Further analysis found that many transit systems were also experiencing financial difficulties and were turning to a variety of means to make ends meet, including fare increases, cuts in routes and schedules, and the deferring of maintenance. In 2004, LexTran took all these steps to reduce its operating deficit, except raise its fares. Fares are only 21 percent of its revenue and its riders are disproportionately low income.

The comparison of LexTran with its benchmarks discovered a primary reason for LexTran's maintenance problems. Its bus fleet was much older (13.6 years on average) than the benchmark average (7.85). Indeed, in 2002, its fleet was older on average than any of the benchmarks.

The age of the fleet probably contributed to some of LexTran's safety problems. However, LexTran's safety record was similar to its benchmark cities. It reported .41 incidents per bus operated to the benchmark average of .31.

In late January 2004, the findings from the public meetings and the comparative study of the benchmark transit systems were presented to the LWG, LexTran's Board, and its management. Subsequently, LexTran decided to ask the city council for a dedicated tax to support LexTran's operations, which due to the funding crisis, were sharply reduced in the Spring and Summer of 2004.

In June 2004, the Lexington city council authorized a referendum on a dedicated tax. In August, KTC helped LexTran build a PowerPoint presentation to explain LexTran's financial situation and the reasons for the cuts in services to the general public. LexTran and its supporters used it in their campaign to pass the dedicated tax, which was approved by the public in November 2004.

## IV. The Deliverables

In all, there were four deliverables: (1) the facilitated information gathering meetings organized and run by KTC; (2) the environmental scan; (3) the GIS database; and (4) the PowerPoint presentation.

- (1) *The meetings and data gathering activities* were described in the previous section. The information obtained is recorded in the three deliverables that constitute appendices A, B, and C.
- (2) *The Environmental Scan* is in Appendix A. It contains a series of tables and text that compare LexTran to the transit systems in ten benchmark cities: Chattanooga, Des Moines, Durham, Knoxville, Lafayette, Nashville, Northern Kentucky, Tallahassee, Toledo, and Wichita. These cities are university towns with populations in the 100,000 to 500,000 range in the South and Midwest. The tables compare the cities on a number of operational characteristics, performance measures, and sources of revenue. The environmental scan summarizes the study of LexTran's economic contribution to Lexington. The environmental scan also summarizes the responses of other transit systems to the recession of 2001, discusses the steps taken to address the maintenance problem, and contains a table comparing LexTran to the other transit systems on safety, defined as the number of accidents per bus in operation.
- (3) *The GIS database* is in Appendix B. LexTran can use it to construct alternative routes and assess the quality of service. Completed in

August 2004, it combines information from a variety of data sources into one database. Planners can relate census data to potential routes-- for example data on total population per census block, population by race, population over and under age 18, etc. The data base can be used to identify areas of greatest transportation need as the block level data contains information on resident means of transportation to work, private vehicle ownership, median household income, etc. This information can be connected to specific streets and their distance from bus stops for all routes. Similarly, the GIS database contains the locations points of shopping areas including groceries and markets, as well as health care facilities (hospitals and clinics). It also contains data from the Lexington Area MPO on Lexington employment, transportation, and population. The MPO data describes current zoning and residential, commercial and other land use for the year 2000. The database also contains data from the Families and Children Assessment Sectors and the data that the Kentucky Transportation Center gathered at the 2003-2004 public meetings for riders. The latter gathered LexTran rider residence locations, destinations, and desired service locations. KTC gave the GIS database to LexTran and trained one of its employees on its use. LexTran can use it to assess potential routes and service schedules.

- (4) *The PowerPoint Presentation* that was used to inform the public in the campaign to pass a dedicated tax is in Appendix C. It provided a quick

summary of the tax referendum along with a summary of the main findings in the environmental scan. The presentation was organized around four contributions LexTran makes to the residents of Lexington: (1) access and mobility; (2) efficient service; (3) economic value; and (4) community vitality. It noted that LexTran provides two services: (1) the bus system for the general public and (2) the Wheels program that offers transportation services to the disabled. With information gathered in the GIS study, it specified the contribution to the access and mobility of Lexington's citizenry by showing that the following percentages of destinations are within ¼ mile of a LexTran stop;

- 100% of Lexington's hospitals;
- 75 percent of all healthcare facilities;
- 86 percent of Lexington's high density residential areas; and
- 88 percent of retail trade, personal and professional services.

It also explained the financial crisis by comparing the small amount of local revenue LexTran receives compared to Northern Kentucky's TANK and Louisville's TARC, both of which had a dedicated source of local revenue.

To clarify the consequences of the financial crisis, it noted that LexTran had reduced its operating system from 38 to 26 buses, eliminated Sunday service, drastically reduced night service, and cut peak hour service from twice an hour to once an hour.

One graph presented a picture of the likely future of LexTran (only 13 buses in operation) without additional revenues. This was followed by the logical conclusion that without a dedicated funding source Lexington would no longer have a reliable transit service for its citizens to get to work and other vital destinations and therefore many riders and their employers will suffer.

The PowerPoint also presented the tax proposal of 6 cents for every \$100 dollars of property evaluation. This was estimated to cost a homeowner \$5.00 per month or \$60.00 per year for every \$100,000 of property.

The PowerPoint also mentioned some ongoing improvements in LexTran's service. For instance it is rapidly replacing its bus fleet and had lowered the average age of its fleet from 14 to 4 years by August 2004. Other recent changes were also mentioned: improved labor management relations, improved fleet maintenance, a new position for a director of risk management and safety training, and community participation in a new strategic plan.

The PowerPoint presented the following commitments, which have been implemented now that the dedicated funding is in place: a restoration of the Sunday and night services; a restoration of 30 minute peak service.

The PowerPoint concluded with a quick summary of the case for passage of the dedicated tax. Objective analysis shows that LexTran:

- efficiently connects people and places

- supports the local economy
- outperforms its average benchmark city; and
- is an asset to community development

## **V. Summary and Conclusion**

During the course of this project, KTC worked closely with the staff of LexTran. In January of 2004, Jim Adams left Lexington for a position with another company. He was replaced by Terry Garcia Crews. Working closely with LexTran's Board of Directors and other community leaders in Lexington, she took command of the effort to pass a dedicated tax to support LexTran. The University of Kentucky endorsed the tax proposal in an editorial page column published in the Lexington Herald-Leader. The column used much of the information about LexTran's comparative efficiency, contribution to the community, and financial difficulties contained in the environmental scan.

During the spring and summer months of 2004, KTC employees continued to provide objective information to LexTran and met with its staff on several occasions. KTC employees did not actively participate in the campaign for passage of the dedicated tax. However, KTC did construct a PowerPoint that summarized its findings about LexTran's relative efficiency compared to its benchmarks and outlined the sources of LexTran's financial problems. This PowerPoint was used by supporters of the dedicated tax to inform the public of LexTran's financial predicament and its need for more revenue.

The voters endorsed the tax proposal, an event that suggests that LexTran has regained the public's confidence in its operation. As promised during the campaign, LexTran has used the new funding to restore the services it cut in 2004. It has also purchased a new fleet of buses.